Using Air Quality Data to Inform and Engage

Jo Green, Associate Director, Ricardo

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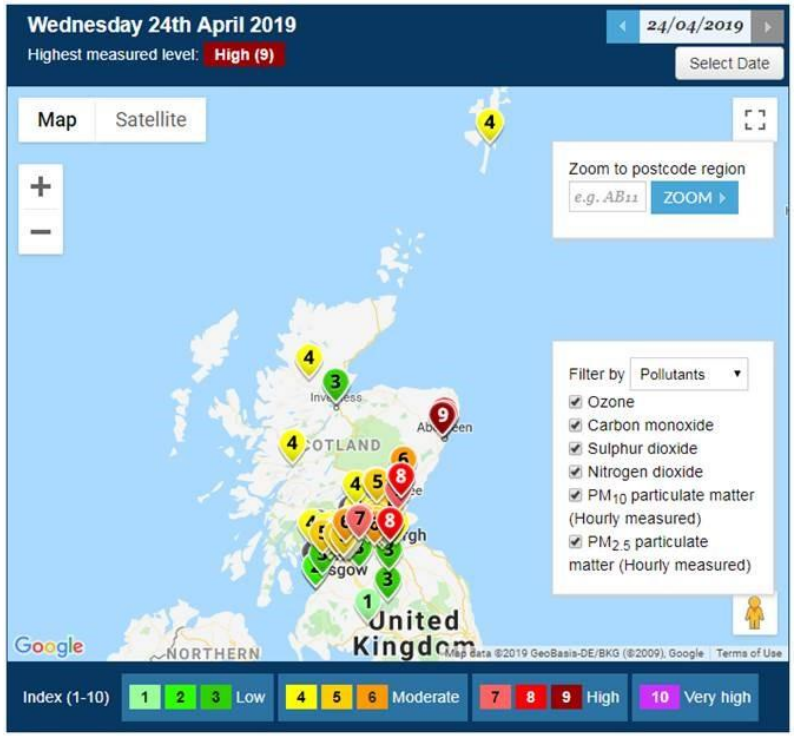
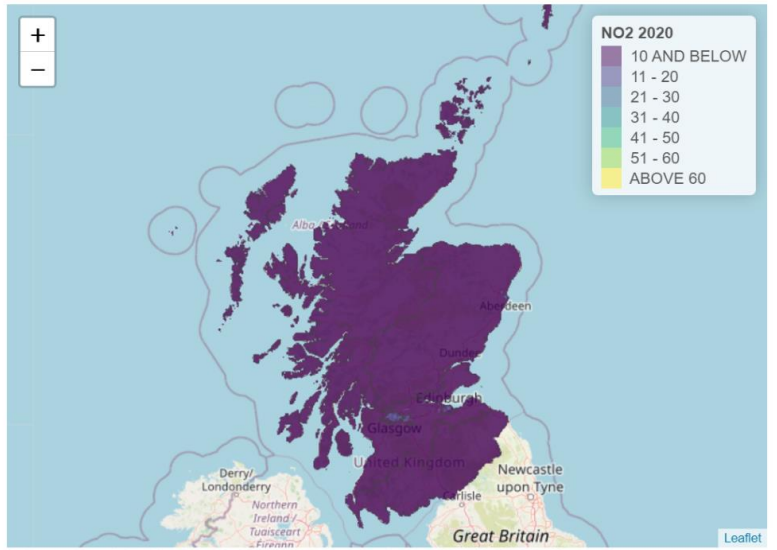
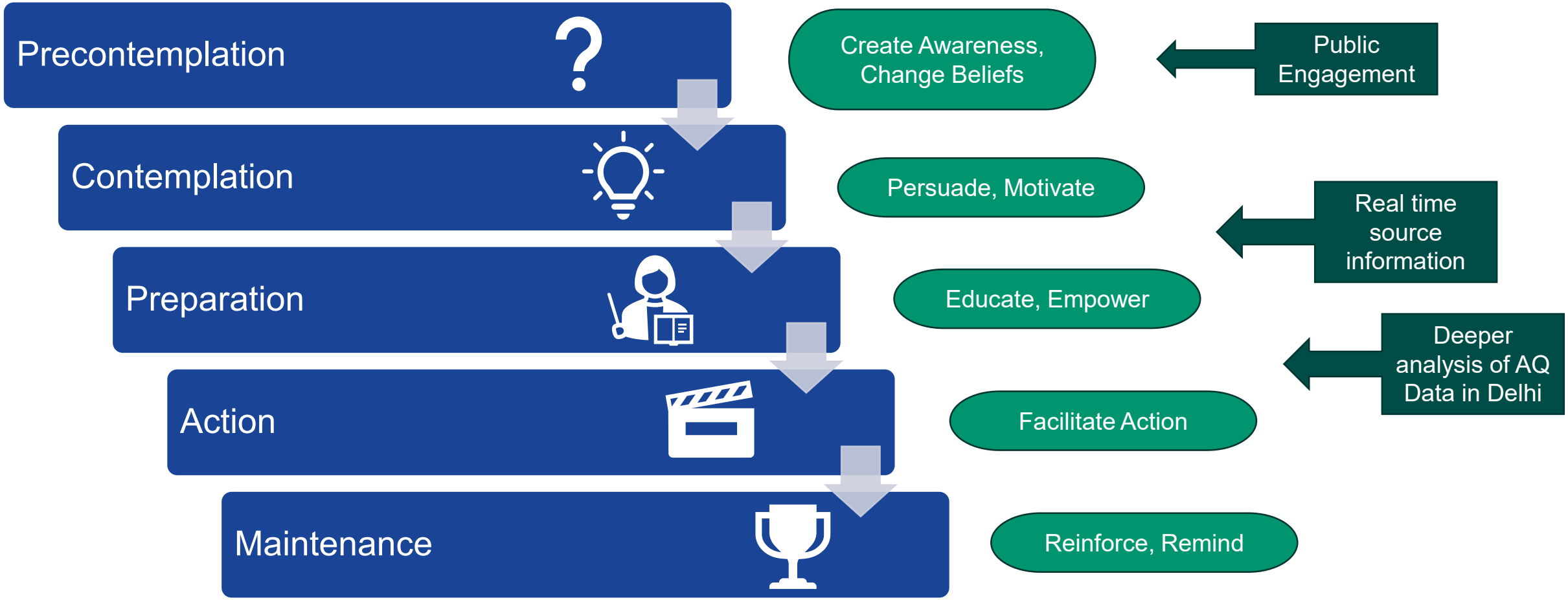
Introduction





Role of Data in Behaviour Change



Using air quality data to engage

Clean Air Days

Car Free Zones

Bike & E vehicle trials

Free public transport passes

Publicity events and news articles

Citizen Science activities with schools

AQ demonstration projects

Partnering with health services to promote active travel

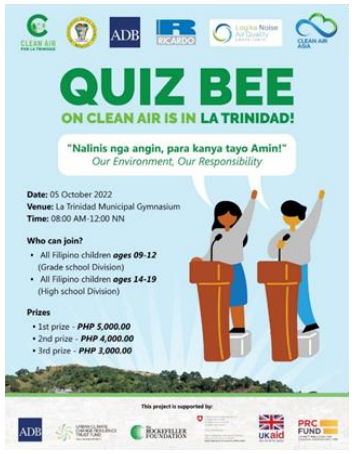
Using air quality data to engage in Asia

Example project: Strengthening Knowledge and Actions for Air Quality Improvement

La Trinidad Clean Air Summit (30 August 2022)

Erdenet Youth Poster-Making Contest (14 September 2022)

"Clean Air For Faridpur" Awareness Meeting (24 October 2022)

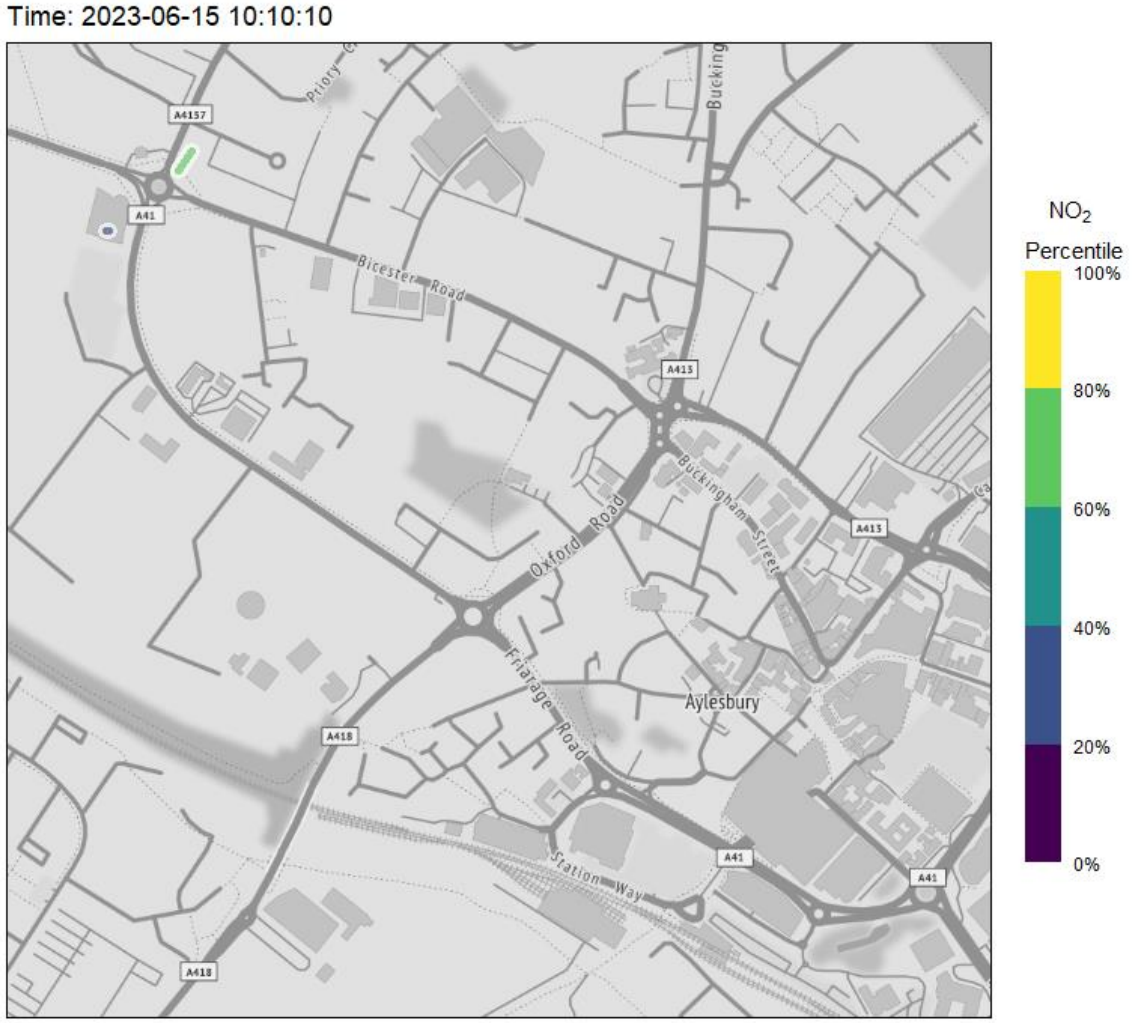


Airing of UNICEF-Mongolia Video "*The impact of air pollution*" in family health centers and schools (Pilot Communication Campaign) – September 2022

Installation of awareness sign boards in Faridpur

Using air quality data to engage

Demonstrating real-world air quality



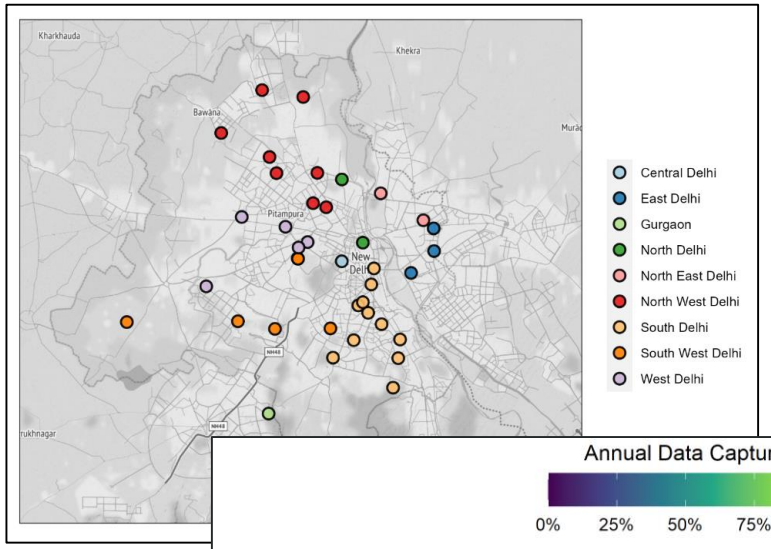
Case Study: Deep dive into analysing air quality data in Delhi

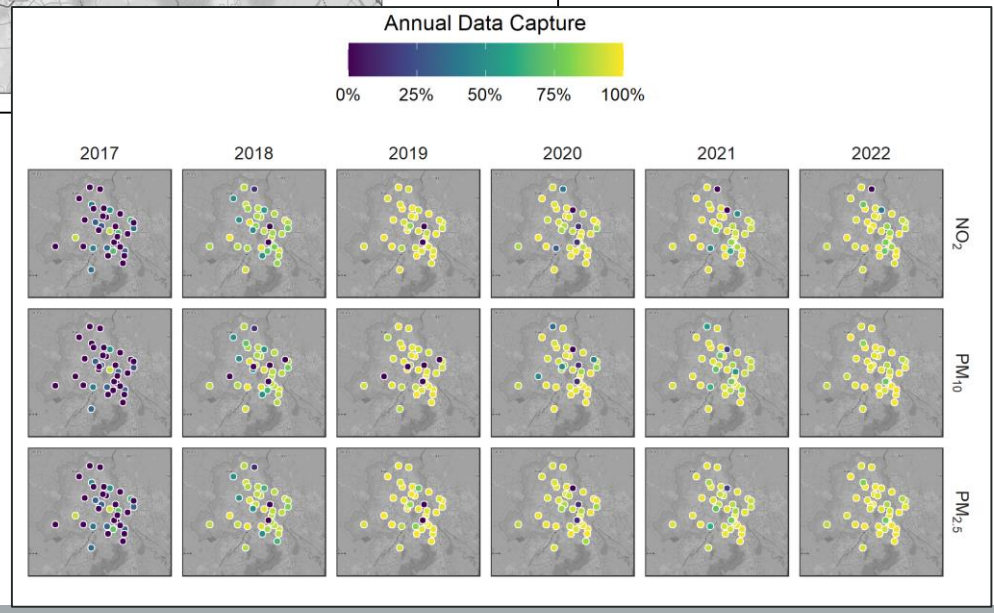
Deep Dive into Delhi Air Quality Data

Case Study: Innovative approaches to analysing air quality data in Delhi

Background:

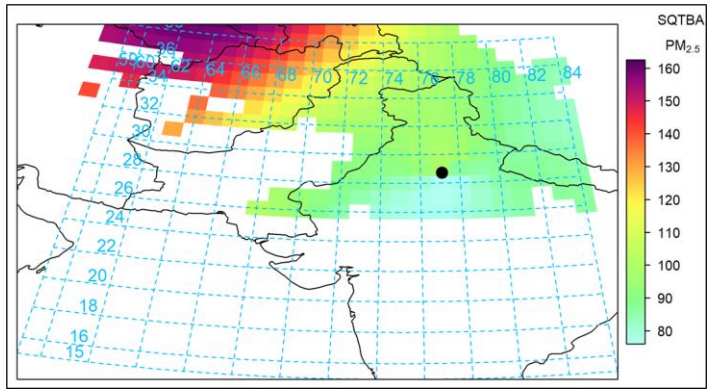
- Analysis of effectiveness of air pollution control measures as part of C40 Air Quality Programme
- Interventions assessed included:
  - Temporary ban on the use of firecrackers
  - Implementation of mechanical road sweepers to prevent dust from the road becoming airborne
  - Winter pollution measures to combat high winter concentrations





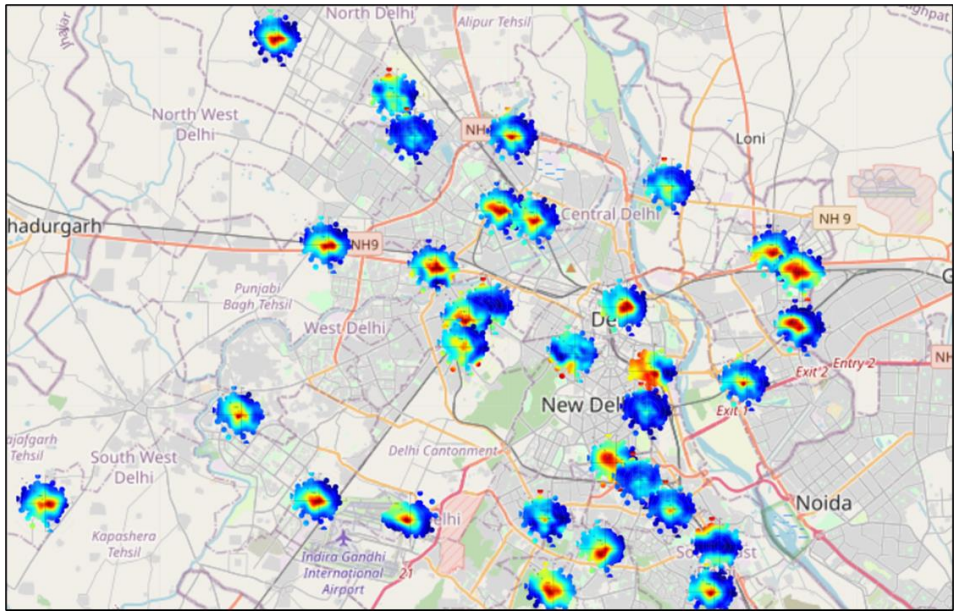
Deep Dive into Delhi Air Quality Data

Methods of analysis



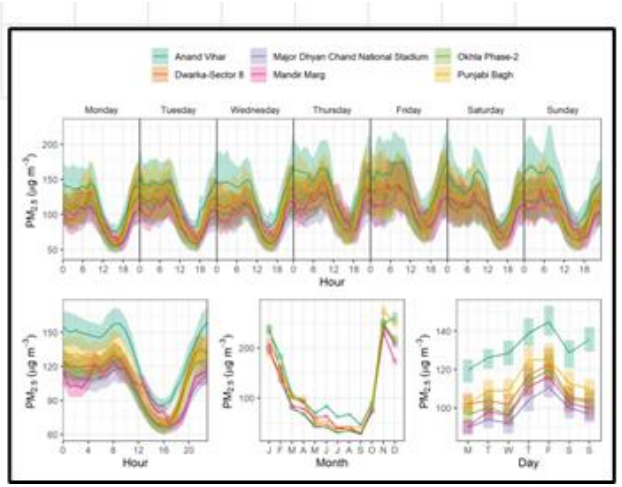
Back trajectories

- Origin of different air masses
- Highest $PM_{2.5}$ concentrations to the north-west of Delhi



Polar plots

- Relationship between measured concentrations and wind speed and wind direction
- Provides details on direction pollutants are being transported from and whether they are likely local or undergone long-range transport



De-weathering

Understand the independent effect of different variables

Time variation plots

Changing concentrations over different timescales

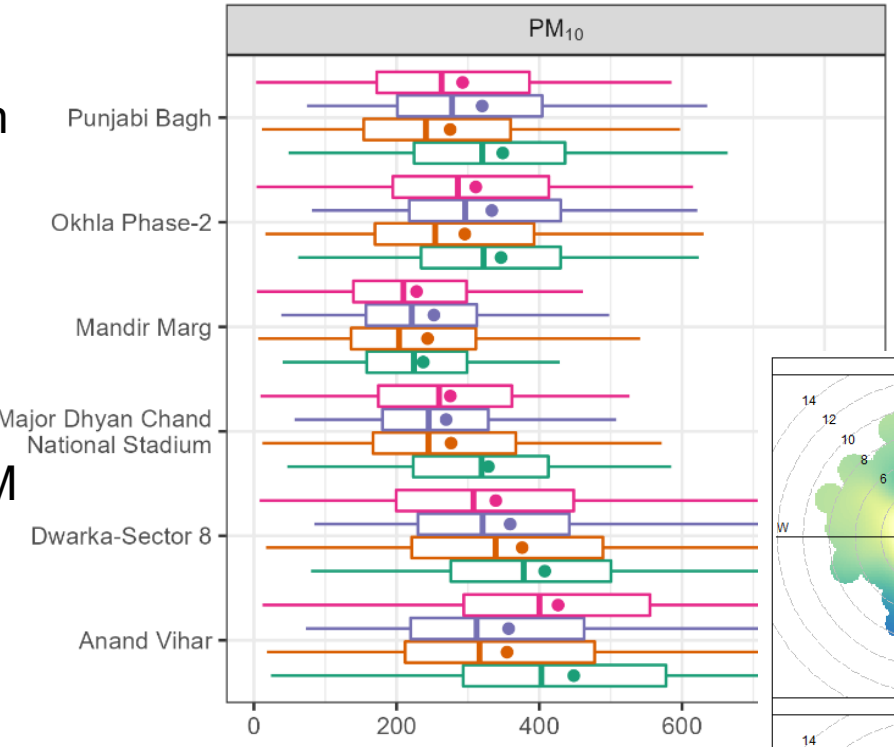
Theil-Sen Trends

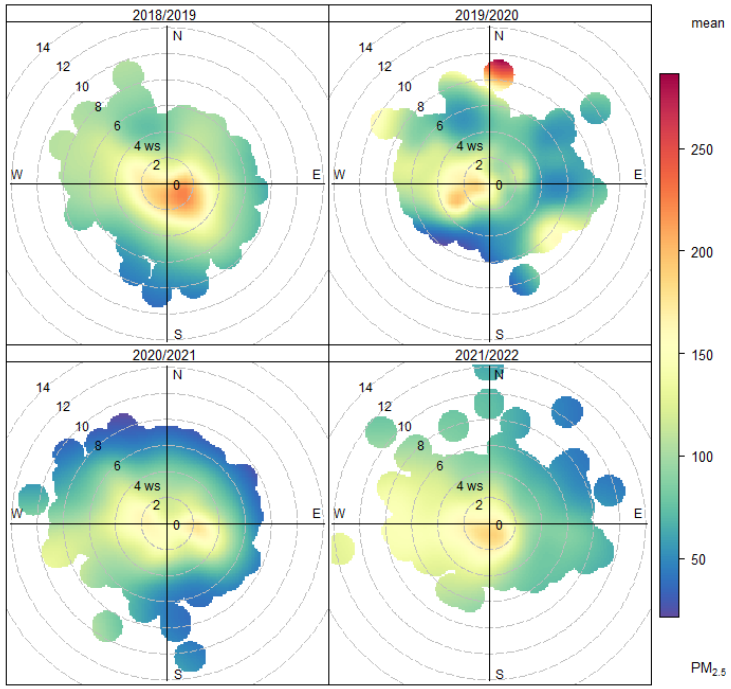
Determine trends in pollutant concentrations over several years

Deep Dive into Delhi Air Quality Data

Key takeaways

- Assessment of the performance of mitigation measures:
  - Improvement in mean and maximum particulate matter concentrations during the ban on firecrackers
  - Moderate success of road sweeping activities with only some sites showing PM improvements
  - Reduction in the peak pollutant concentrations with winter interventions
- Provided engaging visualisations of air quality data – demonstrate to government the value of data in assessing impacts as well reinforcing the need for and impact of mitigation actions





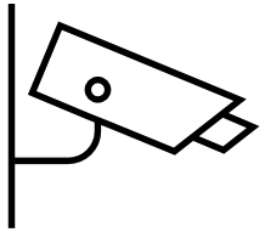
Air quality now – the future?

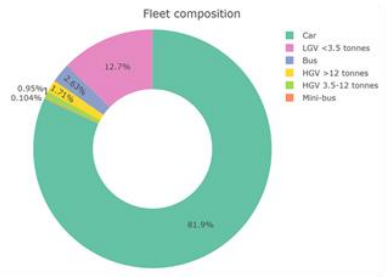
Nowcasting: Near Real Time Road Traffic Source Apportionment

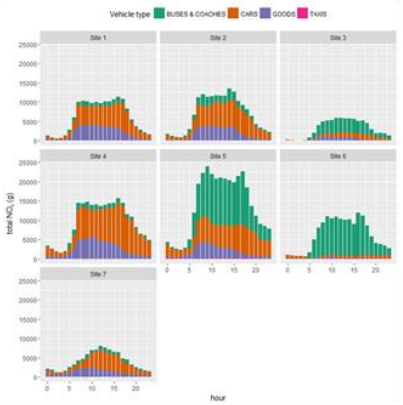
Traffic Data

Real World Emissions Database

Ricardo Nowcast

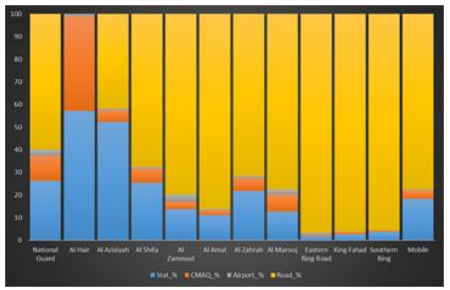






AQ Reference monitoring

Meteorology and background



Better Policy making and tracking

Nowcasting: Near Real Time Road Traffic Source Apportionment

Thank you for listening!

Jo Green

Associate Director

Ricardo Plc

jo.green@ricardo.com